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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,401	12/03/2003	Akihiro Yoshida	246149US2	5027

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EXAMINER	
CHEN, CHIA WEI A	
ART UNIT	**PAPER NUMBER**
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/02/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/02/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/725,401	YOSHIDA, AKIHIRO	
	Examiner	Art Unit	
	Chia-Wei A. Chen	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 April 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/3/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119 (a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The references listed on the Information Disclosure Statement filed on 3/3/2004, have been considered by examiner (see attached PTO/SB/08).

Drawings

3. The drawings are objected to because Figures 1-3 do not label the rectangular boxes as required by rule 1.83.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. (US 20050031330) in view of Kyuma et al. (US 5,883,666).

As to claim 1, Nonaka et al. teaches:

A digital camera (40) comprising:

- a first focusing system (S10) of obtaining a focusing position by sampling a contrast of an object image formed on a light receiving surface with moving a focus lens along an optical axis ("The imager AF detects its contrast by the imager while shifting the focusing position of the taking lens. A lens position of highest contrast is a position suited to focusing. [0275]);
- a second focusing system (S1) of obtaining the focusing position by measuring a distance to an object based on a triangular surveying system ("The external light system AF constituted of the two light receiving lenses and the two sensor arrays is used... to detect an object distance based on a triangular distance measuring principle."; [0274]);
- and an aperture processing device (18) to correct an edge component of an image signal of a photographed image obtained by photographing said object (S84),

but does not teach:

- wherein when said second focusing system is used independently, said aperture processing device enhances said edge component by using a

larger aperture gain than when said first focusing system is used independently or when said first focusing system and said second focusing system are used together.

Kyuma et al. teaches an:

- wherein said second focusing system (e.g., manual operating mode) is used independently, said aperture processing device enhances said edge component by using a larger aperture gain than when said first focusing system is used independently or when said first focusing system and said second focusing system are used together ("the photographing range [of the manual photographing mode] is extended by enlarging the variable range of the AGC gain as compared with that in the automatic photographing mode."; see col. 35, lines 30-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the variable range of the AGC gain of Kyuma et al. with the aperture processing device of Nonaka et al. so that different "photographing modes corresponding to various photographing situations are prepared and selected depending on a situation of photographing in order to make the optimal photographing operation corresponding to all the photographing environments at all times." (See col. 2, lines 24-29.)

As to claim 2, note the discussion of claim 1 above. Claim 2 differs only in that the limitation "aperture gain" is replaced by the limitation "aperture limit. Therefore claim 2 is analyzed as previously discussed above.

Kyuma et al. teaches:

- wherein when said second focusing system (e.g., manual operation mode) is used independently, said aperture processing device enhances said edge component by using a larger aperture limit (e.g., upper limit of AGC gain) than when said first focusing system (e.g., automatic photographing mode) is used independently or when said first focusing system and said second focusing system are used together ("in other photographing modes, the upper limit of AGC gain up is G1, while in the manual mode it is settable up to G2."; see col. 36, lines 38-49.).

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. (US 20050031330) in view of Kuga et al. (US 4,975,726).

As to claim 3, note the discussion of Nonaka et al. of claim 1 above.

Nonaka et al. does not teach:

- a digital filter processing device to correct a high frequency component of an image signal of a photographed image obtained by photographing said object, wherein when said second focusing system is used independently,
- said digital filter processing device uses a filter coefficient having a characteristic of further enhancing said high frequency component than

when said first focusing system is used independently or said first focusing system and said second focusing system are used together.

Kuga et al. teaches:

- a digital filter processing device (10) to correct a high frequency component of an image signal of a photographed image obtained by photographing said object, wherein when said second focusing system is used independently,
- said digital filter processing device uses a filter coefficient having a characteristic of further enhancing said high frequency component than when said first focusing system is used independently or said first focusing system and said second focusing system are used together (col. 10, lines 67 to col. 11, line 13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the digital band-pass filter of Kuga et al. with the digital camera of Nonaka et al. in order to "enable a constantly stable focusing operation regardless of the condition of the object." (See col. 11, lines 3-4.) Kuga et al. further discoses that the passbands of the digital band-pass filter "can be changed simply by changing the coefficient of the BPF, which enables a highly accurate automatic focusing apparatus to be constructed in a compact construction by using LSIs." (See col. 11, lines 9-13.)

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hirose et al. (US 5,838,371) discloses an image pickup apparatus with interpolation and edge enhancement of pickup signal varying with zoom magnification.

Arai (JP 06-014261) teaches an image pickup device with aperture correcting circuit for compensate the deterioration of resolution due to diffraction of a light generated in the small diaphragm state.

Matsushima (US 7,034,878) teaches a camera apparatus with processing for "improving sharpness, also called an aperture correction, which enhances edge portions of the image."

Parulski et al. (US 5,696,850) discloses automatic image sharpening in an electronic imaging system and teaches the manipulation of the maximum value of gain.

Kawakubo (US 20030219168 A1) discloses an edge enhancement circuit.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chia-Wei A. Chen whose telephone number is 571-270-1707. The examiner can normally be reached on Monday - Friday, 7:30 - 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on 571-272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cac
2/22/2007

CHANH D. NGUYEN
SUPERVISORY PATENT EXAMINER